REMARKS

Amendments

Amendments to the Claims

Applicants have amended independent claims 1, 10, 17, 21 and 24 to more particularly point out what Applicants regard as the invention. No new matter has been added as a result of these amendments as the subject matter is present in a number of the other claims as originally filed.

Rejections

Rejections under 35 U.S.C. § 103(a)

Claims 21 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,502,205 to Yanai et al. (hereinafter "Yanai"). Applicants respectfully request withdrawal of these rejections because the cited reference fails to disclose all of the limitations of the claims.

Yanai is directed to an asynchronous remote data mirroring system. The system 210 includes a primary data storage system 214 and a secondary data storage system 246. Each of the data storage systems includes a volume 295, 296. In the volume 296 of the secondary data storage system 246, both log file 293 and data file 294 correspond to the log file 291 and the data file 292 of the volume 295 on the primary data storage system 214.

Claim 21, recites the destination storage server writing the data access request to a non-volatile random access memory in the destination storage server and into a file stored in a mass storage subsystem managed by the destination storage server. In Yanai, both the log file 293 and the data file 294 are stored on the same volume 296. Neither the log file 293 nor the data file 294 are implemented in non-volatile random access memory on the secondary data storage device. One of ordinary skill in the art would not interpret the volume 296 in Yanai as a non-volatile random access memory. Yanai does not disclose that a write request is sent from the primary data storage system 214 to the secondary data storage system 216 where it is written into a non-volatile random access memory and also into a data file 294 in a mass storage device such as volume 296. Thus, Yanai does not disclose all the limitations of claim 21.

Additionally, the log file 293 and the data file 294 in the secondary data storage system 246 of Yanai do not correspond to separate storage servers. The Office Action alleges that it would be readily apparent that the log file 293 and data file 294 could comprise multiple data files because the storage servers in Yanai store mass amounts of data collectively comprising mass amounts of data files. The Office Action further alleges that because the secondary storage system is mirroring the primary storage system, each file in the destination storage system corresponds to each file of the primary storage system. However, claim 21 recites each said file corresponding to a separate one of the plurality of source storage servers. Yanai only discloses a single source storage server. Thus, each of the log files and data files in Yanai cannot be interpreted as comprising multiple files relating to multiple storage servers because a single log file and/or a single data file would be sufficient to serve the system's purpose. Therefore, the use of multiple files, each corresponding to a separate one of a plurality of storage servers is not even suggested by Yanai. Thus, Yanai does not disclose all the limitations of claim 21.

Claims 1, 3, 4, 6, 10, 12, 14-15, and 24-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanai in view of U.S. Patent No. 5,636,360 to Courts et al. (hereinafter "Courts"). Applicants respectfully request withdrawal of these rejections because the cited references fail to disclose all of the limitations of the claims.

Claim 1, as amended, recites the second storage server writing the data access request to a non-volatile random access memory in the second storage server and into a file stored in a mass storage device managed by the second storage server. As discussed above, Yanai does not disclose that a write request is sent from the primary data storage system 214 to the secondary data storage system 216 where it is written into a non-volatile random access memory and also into a data file 294 in a mass storage device such as volume 296. Thus, Yanai does not disclose all the limitations of claim 1.

Courts does not cure the deficiencies of Yanai. Courts merely discloses a method for preventing overwriting cache buffer transaction entries until corresponding log buffer entries have been copied to a log partition of the disk. Courts does not disclose writing the data access request to a non-volatile random access memory in the second storage server and into a file stored in a mass storage device managed by the second storage server. Accordingly, Yanai in view of Courts does not teach or suggest the invention as claimed in claim 1.

Additionally, Applicants claim causing the second storage server to apply the data access request in the file stored in the mass storage device to an image volume when the first portion of the non-volatile storage device in the first storage server becomes full. As admitted in the Office Action, Yanai does not disclose this claimed element. Here, the Office Action alleged that Courts teaches a method of copying the contents of a <u>log buffer</u> to a log partition <u>when the log buffer is full</u>. Assuming *arguendo* that Courts disclosed such a method, copying the contents of <u>a log buffer</u> to a log partition when <u>the log buffer is full</u> is different from the element of claim 1 set forth above. The Office Action equates the first portion of the log buffer in Courts with the non-volatile storage device in the first storage server as claimed. Courts does not disclose <u>causing a second storage server</u> to transmit the data access request to an image volume in response to the log buffer becoming full. Therefore, Courts fails to disclose the limitation of claim 1 set forth above. Claims 10 and 24 contain similar limitations and are patentable over Yanai in view of Courts for at least the reasons discussed above.

Claims 17, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanai in view of U.S. Patent No. 5,687,390 to McMillan Jr. (hereinafter "McMillan"), U.S. Patent Application No. 2004/0153719 to Achiwa et al. (hereinafter "Achiwa") and Courts. Applicants reserve the right to swear behind the cited reference, Achiwa, under 37 CFR 1.131.

Applicants respectfully request withdrawal of these rejections because the cited references fail to disclose all of the limitations of the claims. Claim 17 recites limitations similar to those discussed above with respect to claims 1 and 21. McMillan and Achiwa fail to cure the deficiencies of Yanai and Courts previously mentioned. Therefore, claim 17 is patentable over the combination of all cited references.

SUMMARY

Claims 1, 3, 4, 6-8, 10, 12, 14, 15, 17 and 19-27 are currently pending. In view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. Applicants respectfully request reconsideration of the application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact Sue Holloway at (408) 720-8300 x3476.
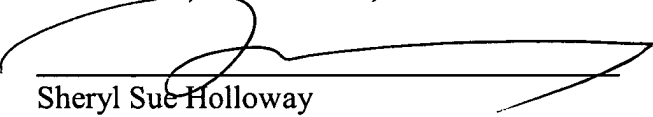
Deposit Account Authorization

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicants hereby request such extension.

Respectfully submitted,

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